

Structure and Memory in Water II.

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Abstract.

This note draws attention to recent work by Nobel Prize Winner Luc Montagnier which seems to offer experimental support for the theoretical work reviewed in an earlier posting on this site. Once again, electromagnetic effects are introduced in an attempt to offer an acceptable explanation for some initially surprising experimental results.

If anything, the theoretical work reviewed in the earlier note on structure and memory in water¹ becomes even more important following the recently reported experimental work of Nobel Prize Winner Luc Montagnier², in which it is claimed that DNA can send electromagnetic imprints of itself into distant cells and fluids. It is claimed also in this latter work that enzymes can mistake the imprints for actual DNA and act accordingly. If the relevant New Scientist³ article is to be believed, these claims are being treated with similar scepticism as that afforded Benveniste. From the point of view of the present comments though, the interesting thing about this work of Montagnier is that the experiment itself utilises an electromagnetic field and the explanation offered for the results again involves electromagnetism. At this stage, precise details of the experiment haven't been released but, for the purpose of this note, it is possibly sufficient to note that dilute solutions and electromagnetic fields were involved. Two separate test tubes, one tube containing a fragment of DNA around 100 bases long, the second containing pure water, were placed within a copper coil and subjected to a very weak, extremely low frequency electromagnetic field of 7 hertz. The apparatus was isolated from the Earth's natural magnetic field to prevent its interference with the experiment. After 16 to 18 hours, both samples were independently subjected to the polymerase chain reaction (PCR), a method used to amplify traces of DNA by using enzymes to make many copies of the original material. The gene fragment was apparently recovered from both tubes, even though one should have contained only pure water. However, DNA was only recovered if the original solution of DNA had been subjected to several dilution cycles before being placed in the magnetic field. Although it is not absolutely clear as yet precisely what levels of dilution were involved, it is possibly interesting to note that the New Scientist article was at great pains to point out that 'it was not found at the ultra-high dilutions used in homeopathy', even though there was no mention of homeopathy in the original article.

In the context of the present discussion it is important to note that, as mentioned in the New Scientist article, 'physicists in Montagnier's team suggest that DNA emits low-frequency electromagnetic waves which imprint the structure of the molecule onto the water. This structure, they claim, is preserved and amplified through quantum coherence effects, and because it mimics the shape of the original DNA, the enzymes in the PCR process mistake it for DNA itself, and somehow use it as a template to make DNA matching that which "sent" the signal'. There is little doubt that this explanation will be extremely difficult for many to accept but, if it eventually proves accurate, this will surely herald a major advance in knowledge and possibly indicate new pathways in chemistry. However, this latest work does seem an almost logical extension to results published by Montagnier and his team last year, and referred to in the above reference, in which the ability of DNA fragments and indeed, entire bacteria to produce weak electromagnetic fields and to regenerate themselves in previously uninfected cells was shown. Montagnier strained a solution of a bacterium through a filter with pores small enough to prevent penetration by the bacteria. The filtered water emitted the same frequency of electromagnetic signal as the bacteria themselves. Montagnier also claimed he has evidence that many species of bacteria and many viruses give out electromagnetic signals, as do some diseased human cells.

Hence, once again, criticism from conventional chemists on the basis of conventional chemistry is not really valid since, as already noted, conventional chemistry relies on electrostatics whereas the work of both Widom et al and this work of Montagnier et al introduces dynamic effects and, therefore, a consequent radiation field and it is quite possibly this which is important in explaining these unexpected results.

¹ vixra.org/abs/1101.0081

² arxiv.org/abs/1012.5166

³ New Scientist, *Scorn over claim of teleported DNA*, 12 January 2011